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# ECS Operations

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# Objective

## ASSESS THE OPERABILITY OF THE RELEASE B DESIGN





# Approach

## To-Date

**M&O has worked closely with ESDIS, DAACs, developers and testers to develop an operable Rel B design. This process has taken the form of**

- **Ops Workshops Participation**
- **GUI Workshops Participation**
- **Ops Teleconferences**
- **Design Walkthru Participation**
- **Ops Concept Design Review (604)**
- **Ops Scenario Generation (605)**
- **Ops Maintenance & Operations Roles (607)**
- **Operational Staffing Analysis**

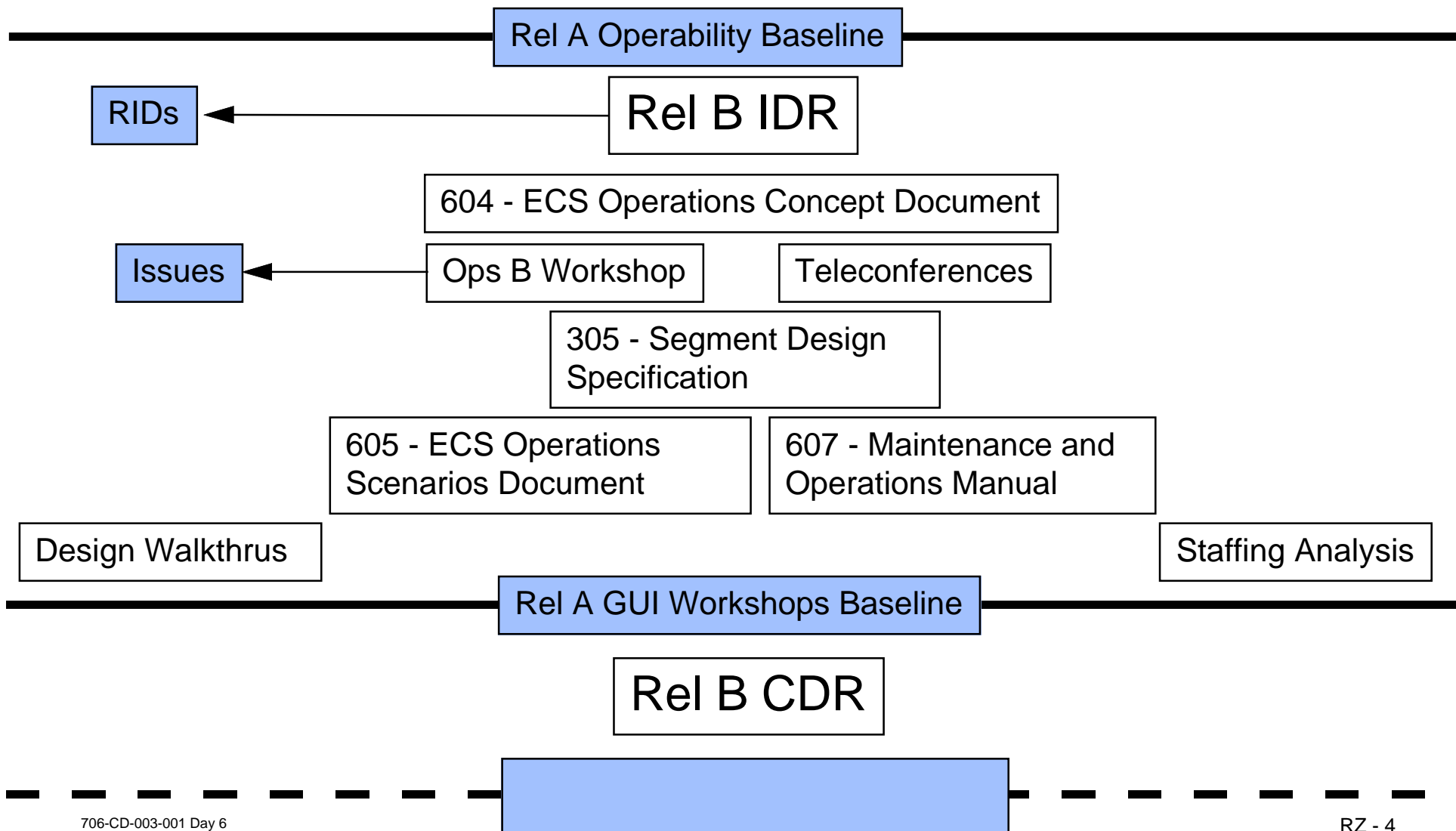
## Today

**Review of an operational planning scenario that illustrates the Rel B operability**

- **Role-to-Role Interactions**
- **GUI Displays (Rel A GUI concepts shown)**
- **Reports**

# Rel B Operability Interaction

## M&O, DAACs, SCDO, ESDIS





# Resource/Planning Scenario

## Resource Planning

1. Resource Planner reviews, assigns sponsor and approves an SEO Resource Request
2. Production Team evaluates proposed changes to the Resource Schedule and candidate Production Plans
3. Resource Planner approves the resource request and publishes the Resource Schedule

## Production Planning

4. Production Planner generates a new Baseline Production Plan and activates the daily Production Plan
5. Production Monitor monitors/controls the progress of the processing and impact due to the SEO Resource Request
6. Production Monitor requests a production strategy change if production goals are not met



# Primary Roles

## **Resource Planner**

**Integrates all Resource Requests and develops daily, weekly and monthly Resource Schedules**

## **Resource Manager**

**Provides impact assessment for all proposed operations system configuration changes and implements/executes the daily Resource Schedule**

## **Operations Supervisor**

**Responsible for overall performance and utilization of both operations staff and resources**

## **Production Planner**

**Integrates all Production Requests, evaluate proposed Resource Schedules and develop daily, weekly and monthly production schedules**

## **Production Monitor**

**Monitors/controls production processing execution and report performance status**

# Resource Planning Role Interactions



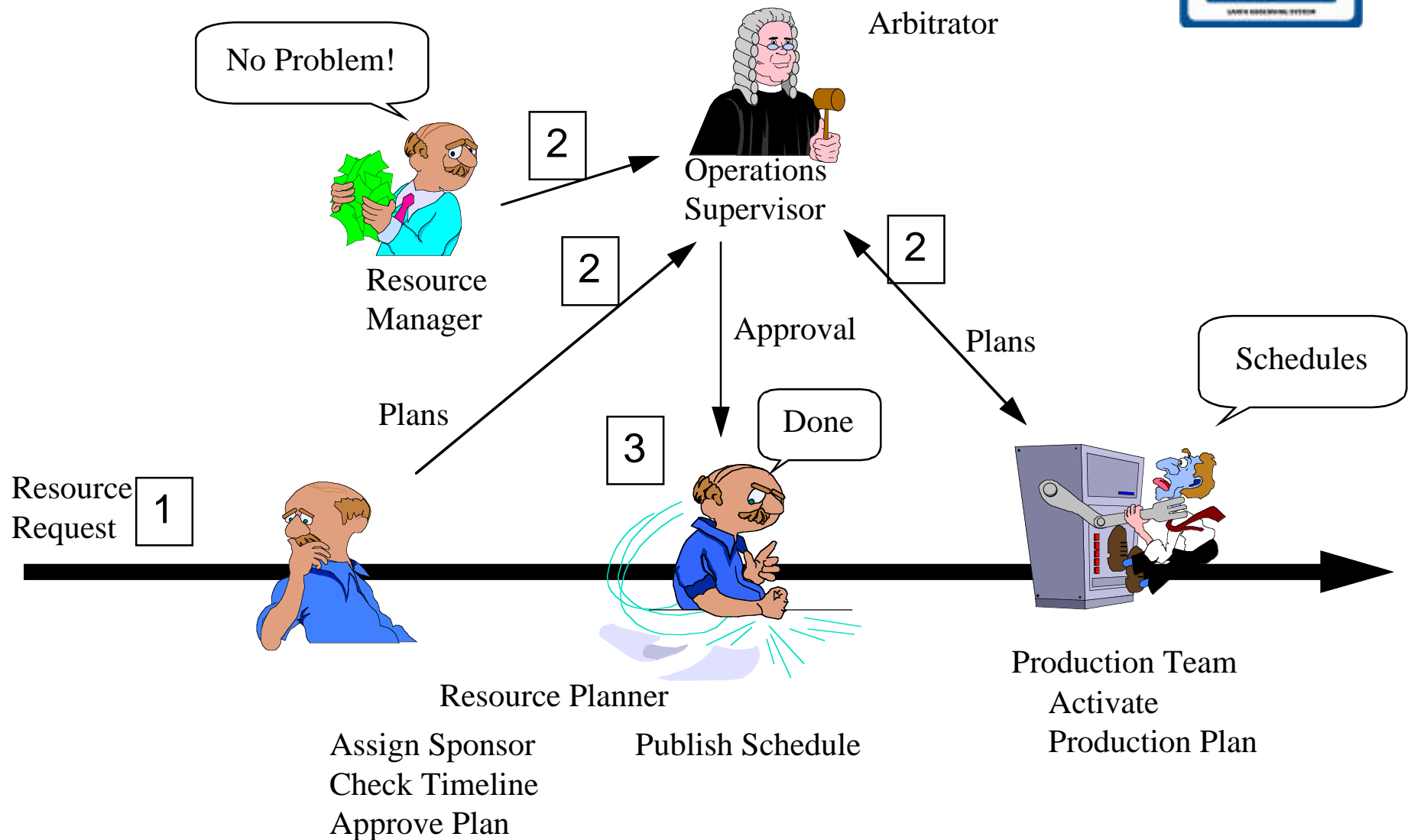
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# Resource Perspective







# “1” Submit Resource Request

Insert Request

Generate  
New  
Resource  
Request via  
Planning  
Workbench

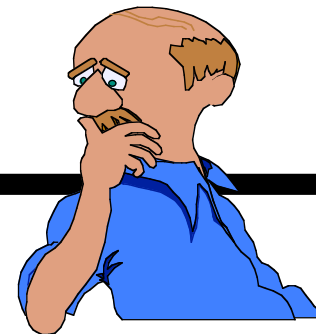
Assign Sponsor  
Check Timeline  
Approve Request

Resource  
Request



SEO Requester

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Resource Planner



# Resource Planner

**Situation: SEO requests production hardware. Planner must identify conflicts in Resource Requests and coordinate with Production Team.**

## **Assist users/staff for Resource Scheduling**

- Receive SEO Request
- Assign Sponsor (Example: System Engineer)
- Approve Sponsor Validated Request

## **Reviewing, validating, approving and integrating all Resource Requests**

- Conflict Identification/Resolution

## **Daily, weekly and monthly plans**

- Generation of the Resource Schedule

## **Conduct Resource Scheduling meetings for management review and approval**

## **Publish/distribute approved schedules**

- Automatic Notification via Subscription Requests

# Resource Reservation Request GUI



Resource Reservation Request Identification

Request Name: SEO Resource Plan  
Origination Date: MM/DD/YY HH/MM/SS  
Originator: SEO Resource Plan

Activity Type:  ☐  
Priority: 2  
Brief Description: SEO Development Testing

Resources

Begin: MM/DD/YY HH/MM/SS  
End: MM/DD/YY HH/MM/SS  
Frequency:  ☐

Comment

Hardware required by SEO for special testing of new software modification.

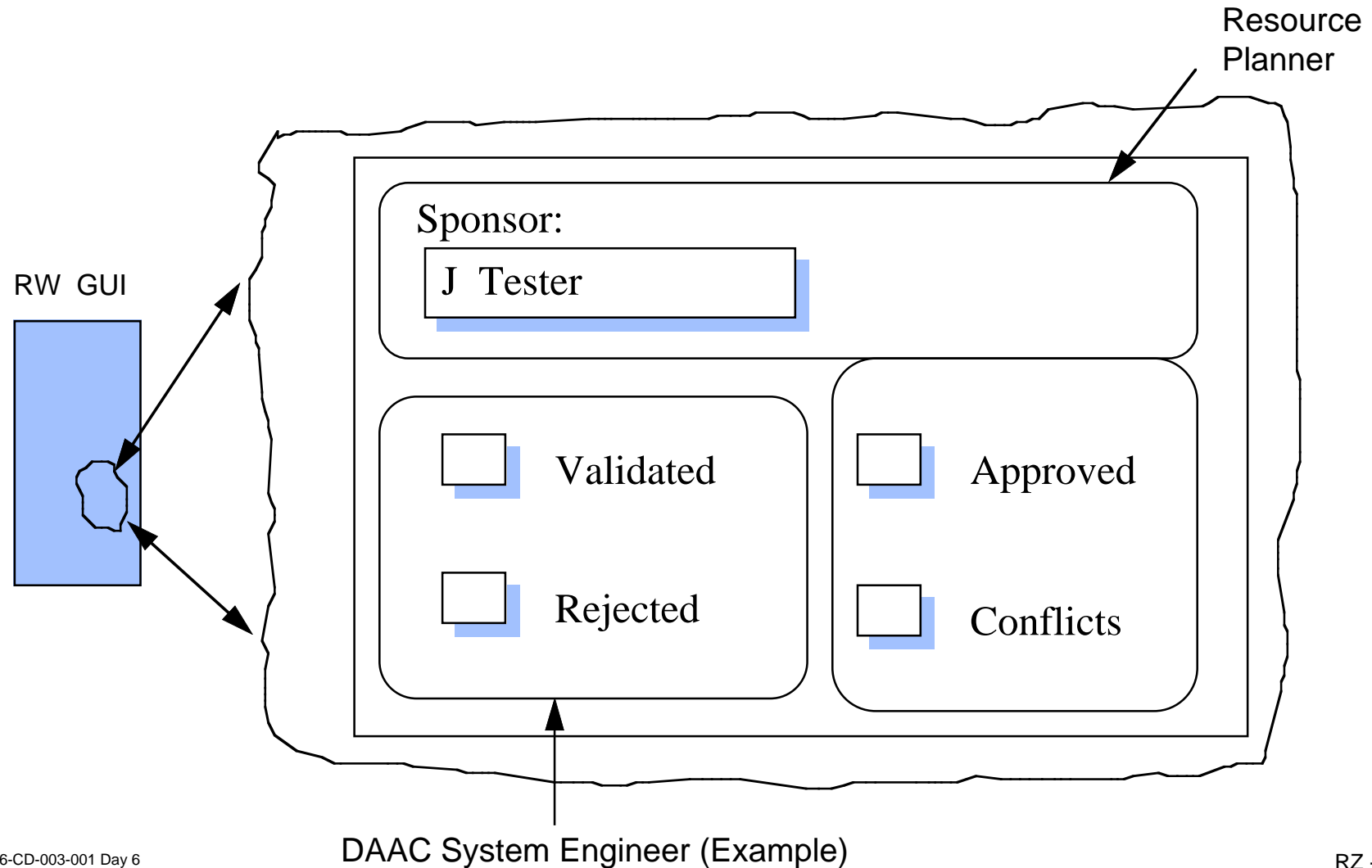
Sponsor

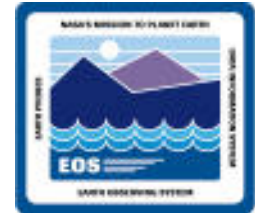
☐ Validated ☐ Approved  
☐ Rejected ☐ Conflicts

Close Save Clear

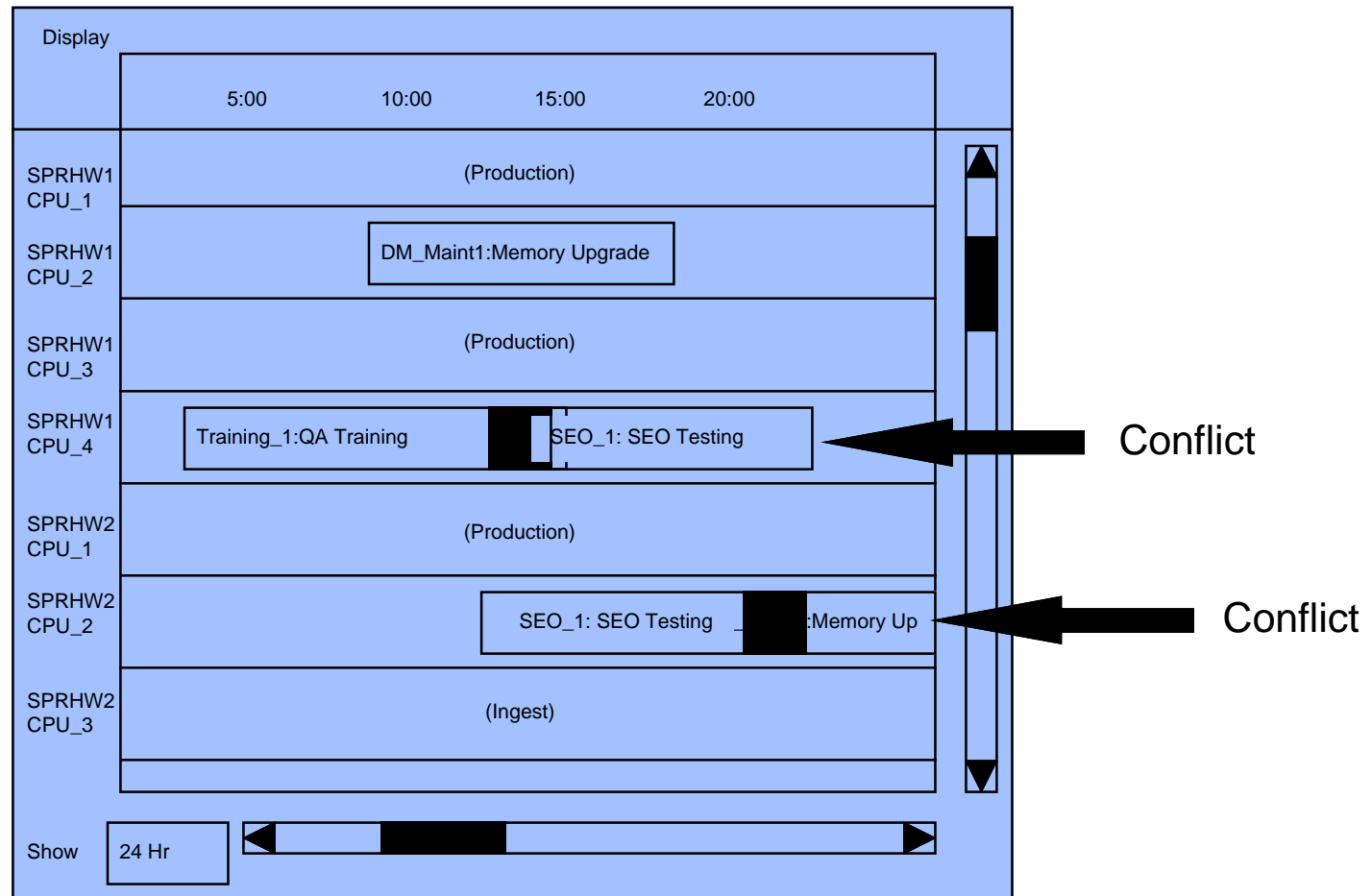


# Validation - Approval



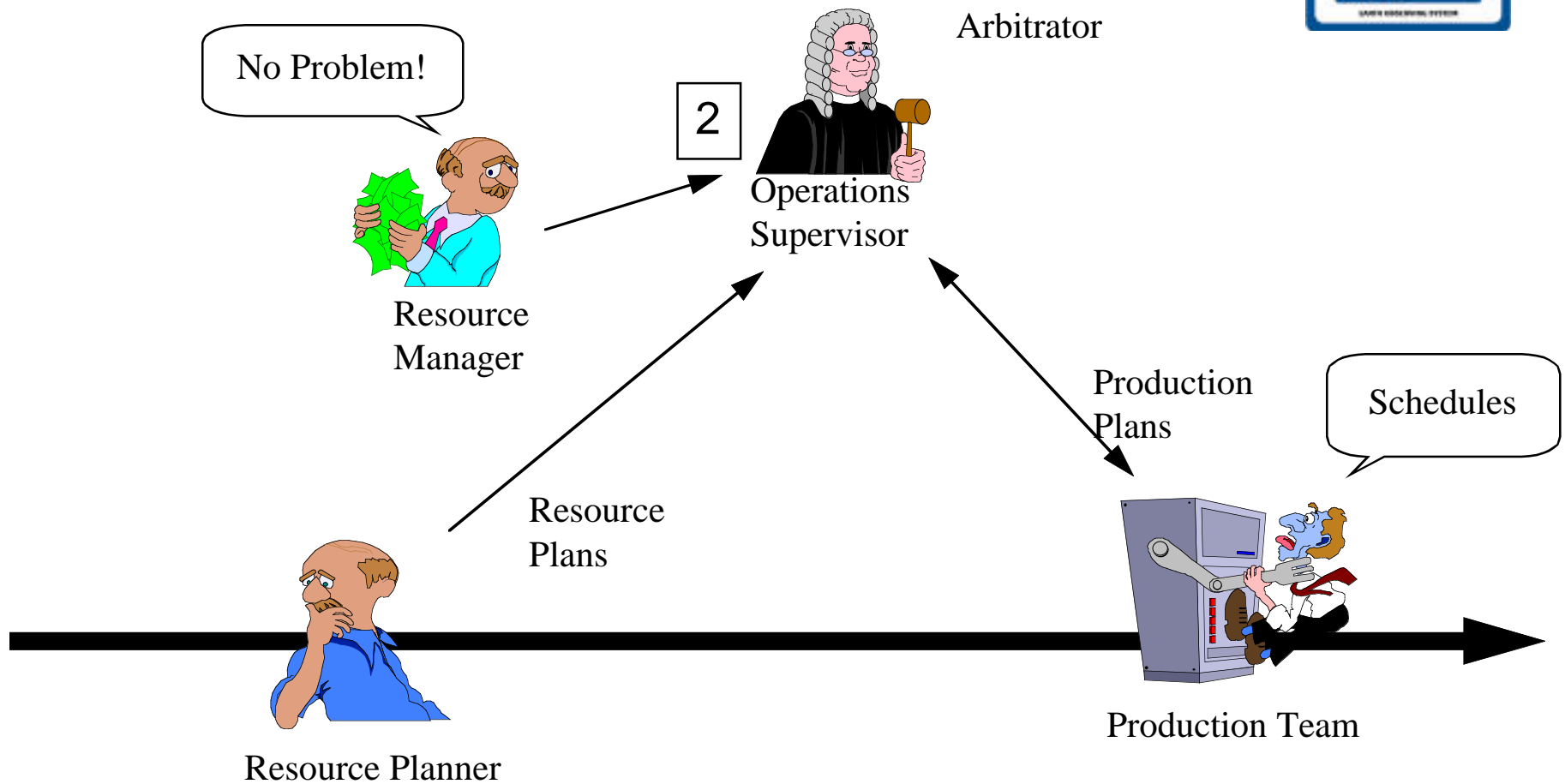
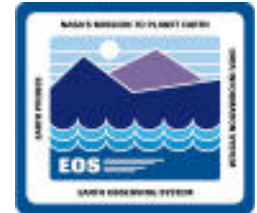


# Resource TimeLine



NOTE - only deviations from normal configuration are presented

# “2” Resource Perspective



# Resource Manager



**Situation: Analyzes impact of SEO request on training and memory upgrade requests previously scheduled.**

**Review and provide impact assessment for all proposed Ops system configuration changes**

- Review Resource Utilization Reports

**Participate in site resource scheduling activities/meetings**

- Review Resource Schedule

**Responsible for site hardware, software, allocation and utilization performance**

# Site Host Resource Utilization Report



**Provides an overview of the host utilization (minimum, maximum and average values) over the time frame specified by the operator**

- **Percentage of CPU time utilized**
- **Number of processes running**
- **Percentage of physical memory utilized**
- **.....**



# Operations Supervisor



**Situation: SEO requires resources that conflict with MODIS production schedules and Training requirements. Resource Plans and Production Plans must be coordinated to best accommodate both requests while maintaining production schedules.**

**Responsible for overall performance and utilization of both operations staff and resources**

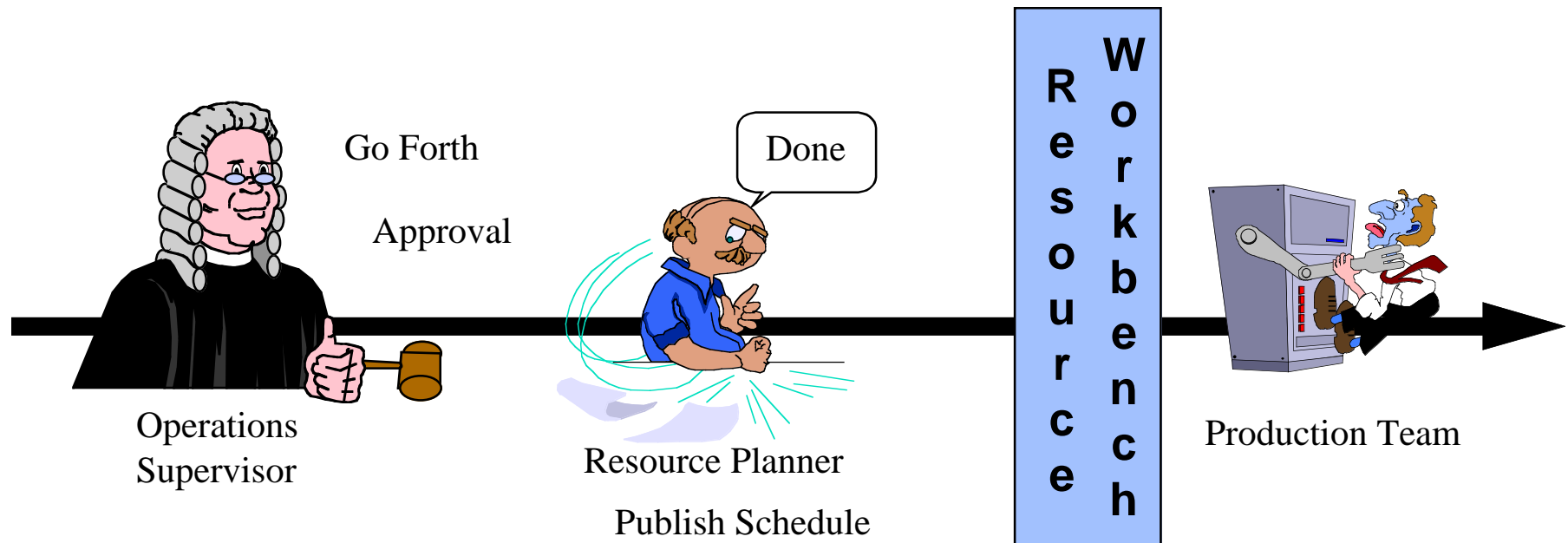
- Review Production/Resource Utilization Reports

**Serve as the focal point for all related problems**

- Review Impacts to the Production Plan

**Provide direction and assistance to “on-line” operations staff as needed**

# “3” Resource Implementation



# Resource Reservation Requests GUI



Resource Reservation Requests

Resource Name	Origination Date	Status	Start	End
SEO Test	04/22/96	A	04/24/96	04/24/96
Training Class	04/01/96	C	04/24/96	04/24/96
Arch Dump	04/11/96	C	04/24/96	04/24/96
Memory Up WS 1	04/22/96	C	04/24/96	04/24/96
Memory Up WS 2	04/22/96	C	04/24/96	04/24/96
Ceres AIT	04/22/96	N	05/19/96	05/25/96
DM Maint 1	04/22/96	N	05/19/96	05/25/96
SP Maint 1	04/22/96	R	04/24/96	04/24/96
Memory Up WS 3	04/22/96	V	04/25/96	04/25/96
Memory Up WS 4	04/22/96	V	04/25/96	04/25/96

Find:

Plan is Published

Commit TimeLine New Edit Report

# Production Planning Role Interactions



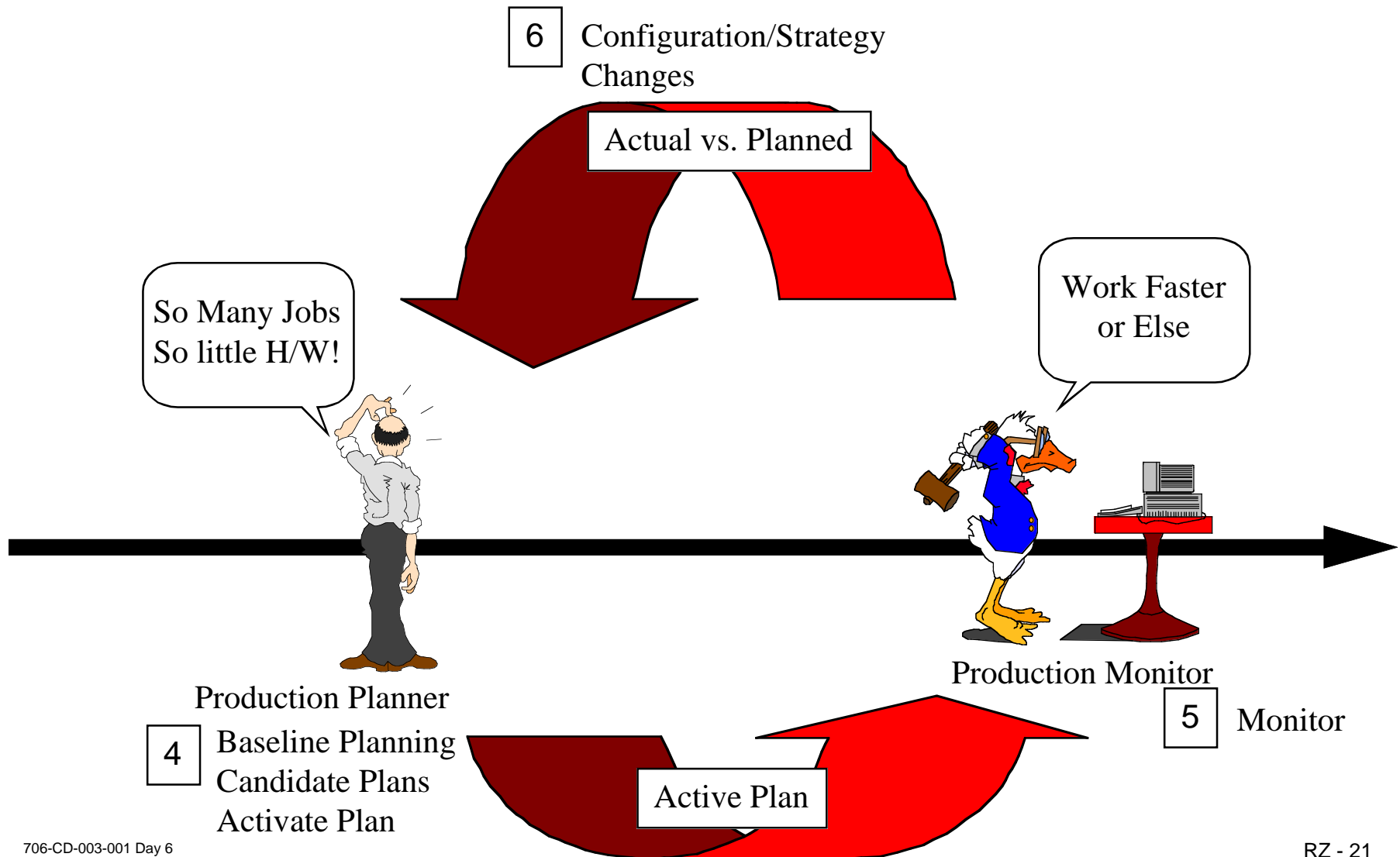
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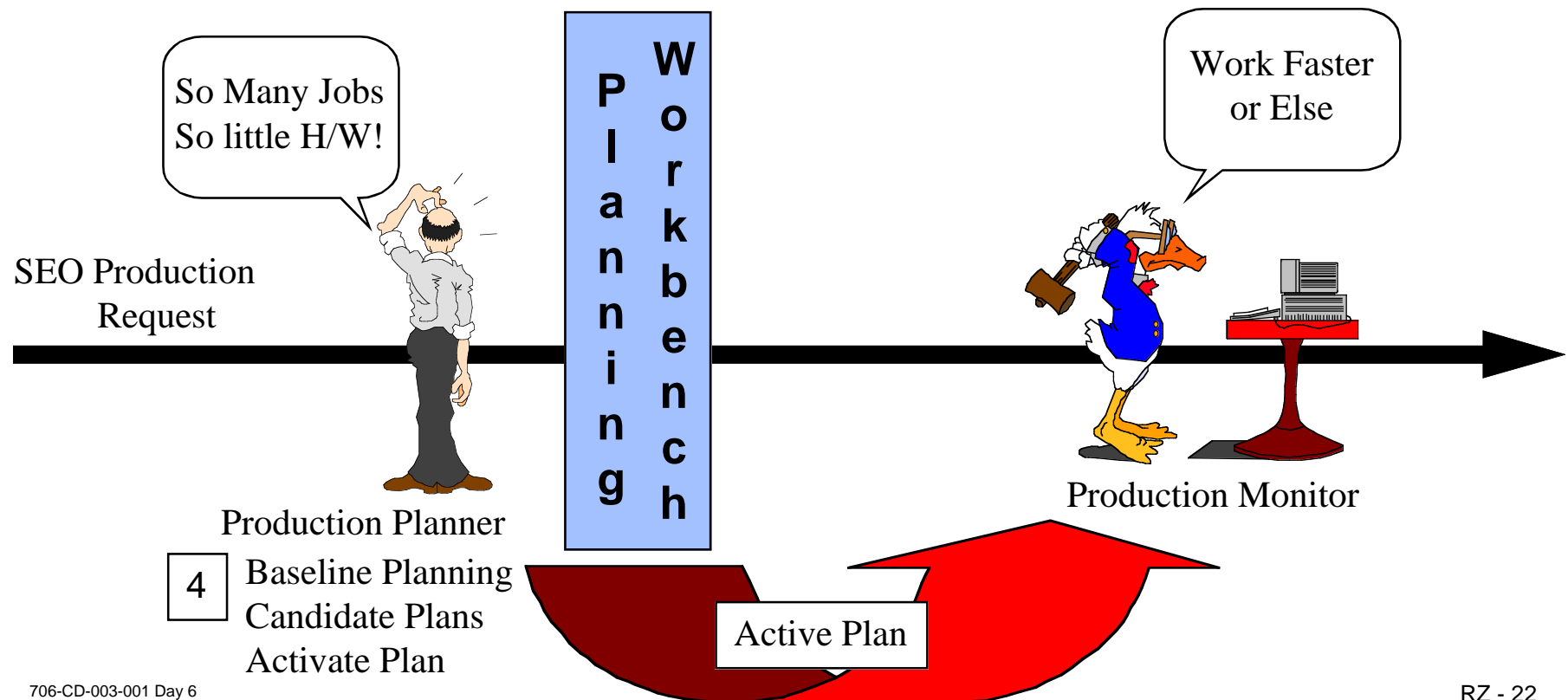
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# Production Execution



# “4” Production Planning





# Production Planner

**Situation: Plans must be adjusted for loss of production hardware while still meeting the goals for production. Candidate Plans are proposed and the “Best Fit” is implemented.**

## **Daily, weekly and monthly production schedules**

- **Review Resource Schedules**
- **Generate Candidate Productions Plans with Resource Schedules**
- **Generate Target Date Reports for Production Plans**
- **Activate Plan with “Best Fit” to Production Plans**

**Populate and maintain production database**

**Develop and maintain ancillary/input data schedules**



# Planning Workbench

Plan Name: SEO Testing      Status: Candidate

SEO Development Testing

Production Plan

Begin:	MM/DD/YY	HH/MM/SS
End:	MM/DD/YY	HH/MM/SS

Comment:

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Log

04/25/96 - EOS Plan Implemented
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Production Requests

Scheduled	Status	PGE ID	Priority	Start	End	Comments

Generate

Baseline

Activate

Cancel

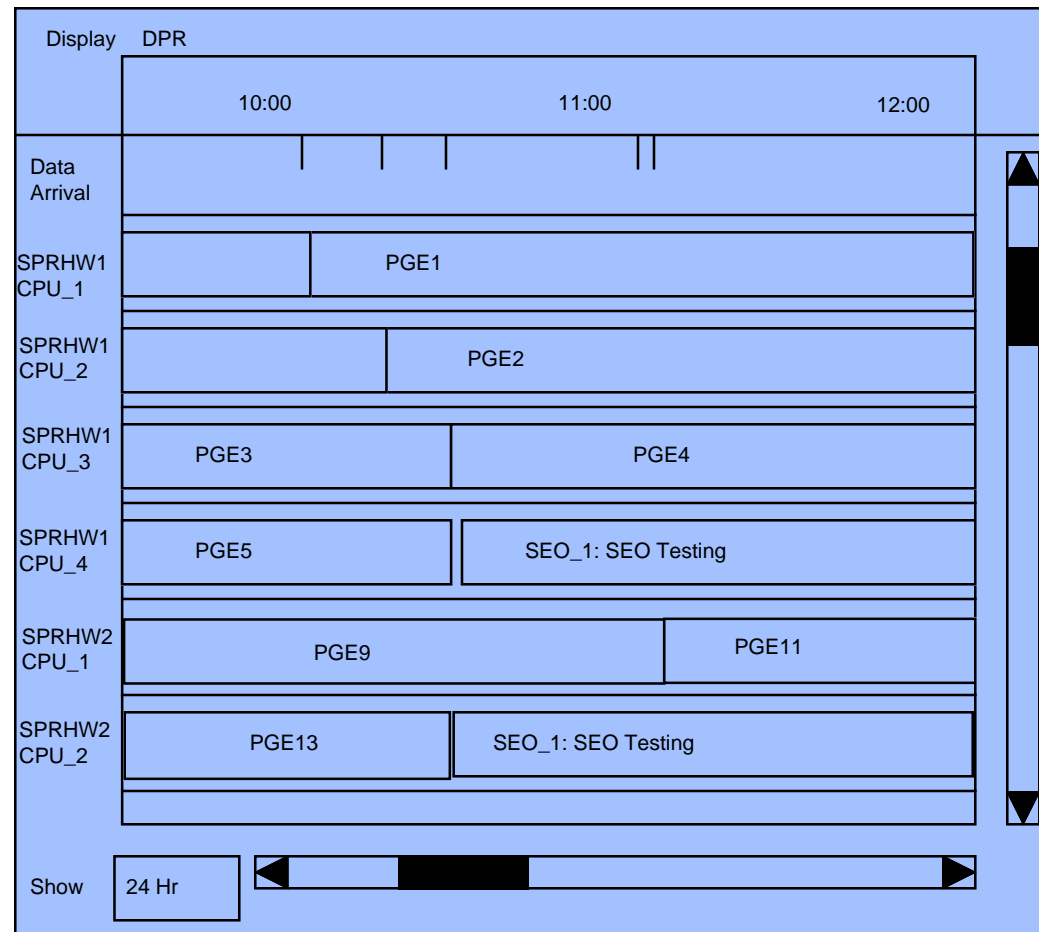
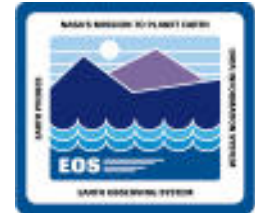
Record Changes

Schedule/Unschedule

Cancel All Changes

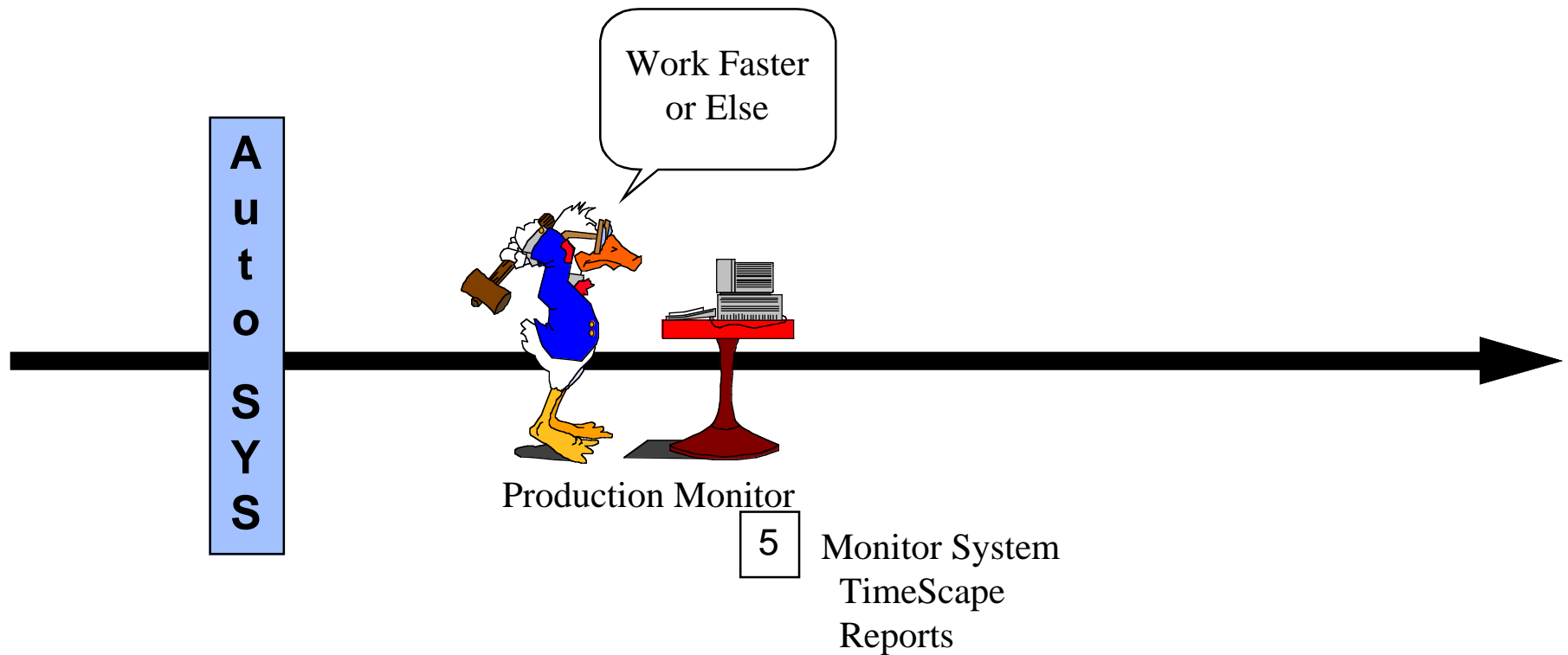
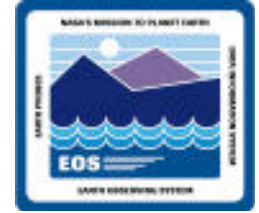


# Production Planning TimeLine



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# “5” Production Monitoring



# Production Monitor



**Situation: Production is impacted by the loss of production resources. Routine Production falls behind schedule. A change in Production Configuration is required.**

## **Monitor/control science software execution**

- Monitor DPR Execution

## **Support problem resolution and report performance status**

- Report problems to Production Planner

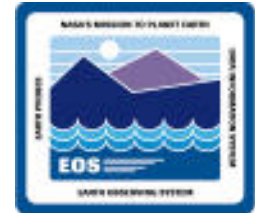
## **Manage On-Demand and planned processing schedules and requests**

- Modify Planning Configuration/Strategies
  - Example: OPR Thresholds and OPR Replan Thresholds

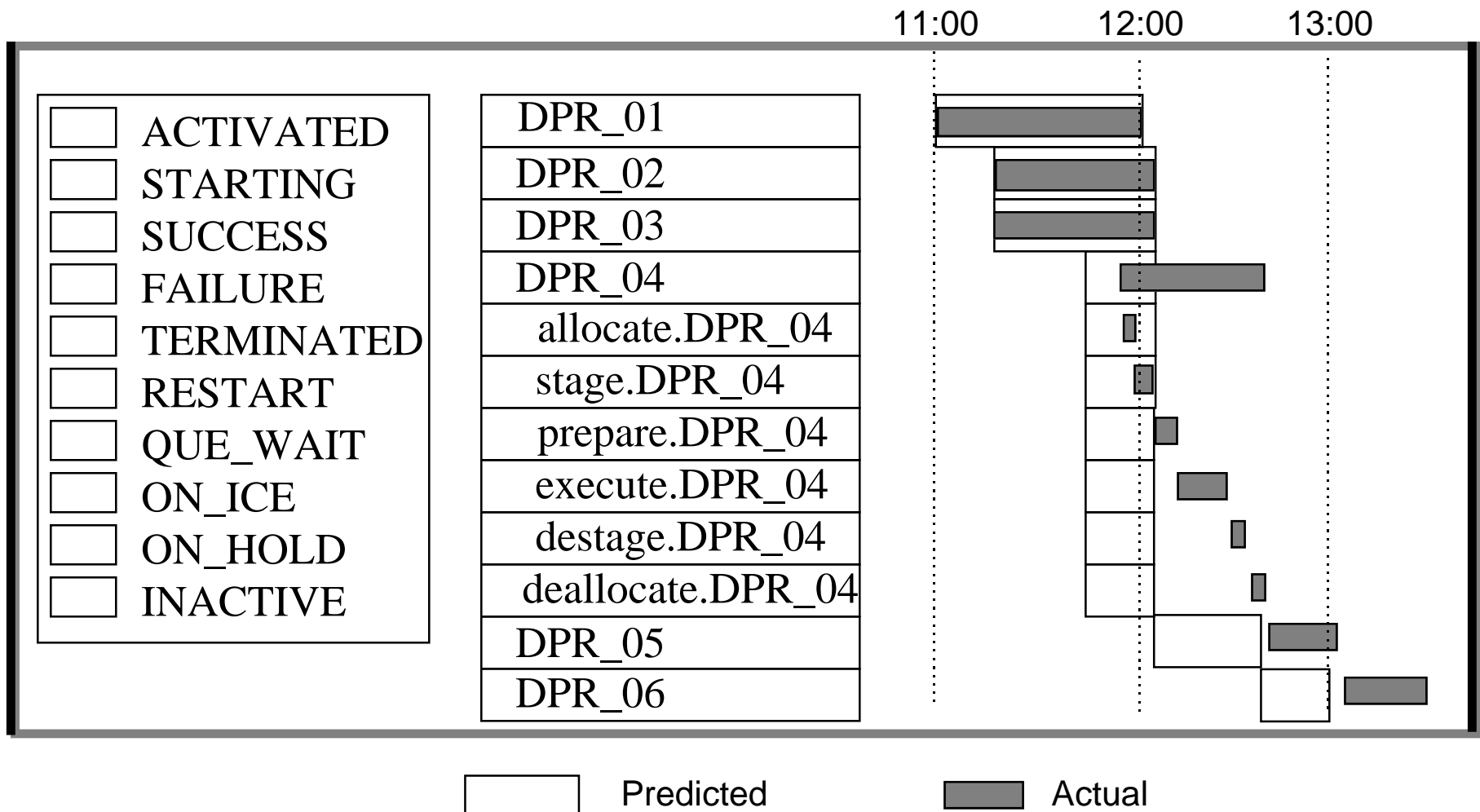
# AutoSys Menu



Ops Console	Job Definition	Calendars	Monitor/Browser
HostScape	JobScape	<b>TimeScape</b>	Exit



# TimeScape



# Reports



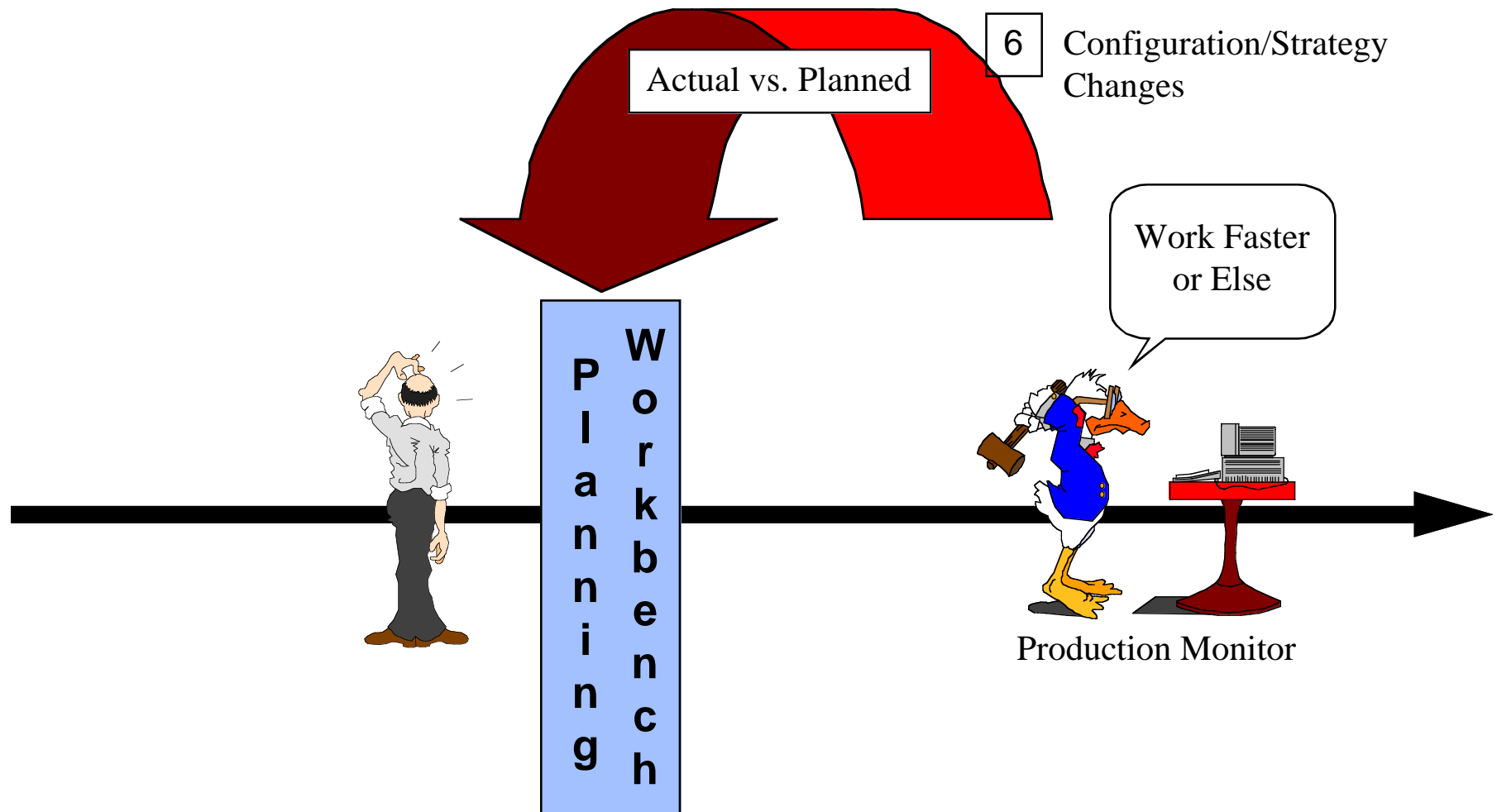
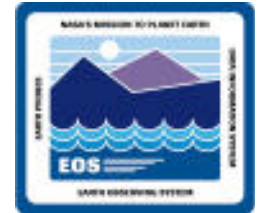
## Production Status Report

- **Compares the active production plan with current processing status at the product group, product, and PGE levels, and gives account of production backlogs.**

## Processing History - Summaries

- **Provides summaries of data processing activities and resource utilization at the product group, product, and PGE levels. The summary includes totals (e.g., the count of products produced), as well as averages and other aggregates (e.g., average, minimum, and maximum run and CPU times VS. predicted run times).**

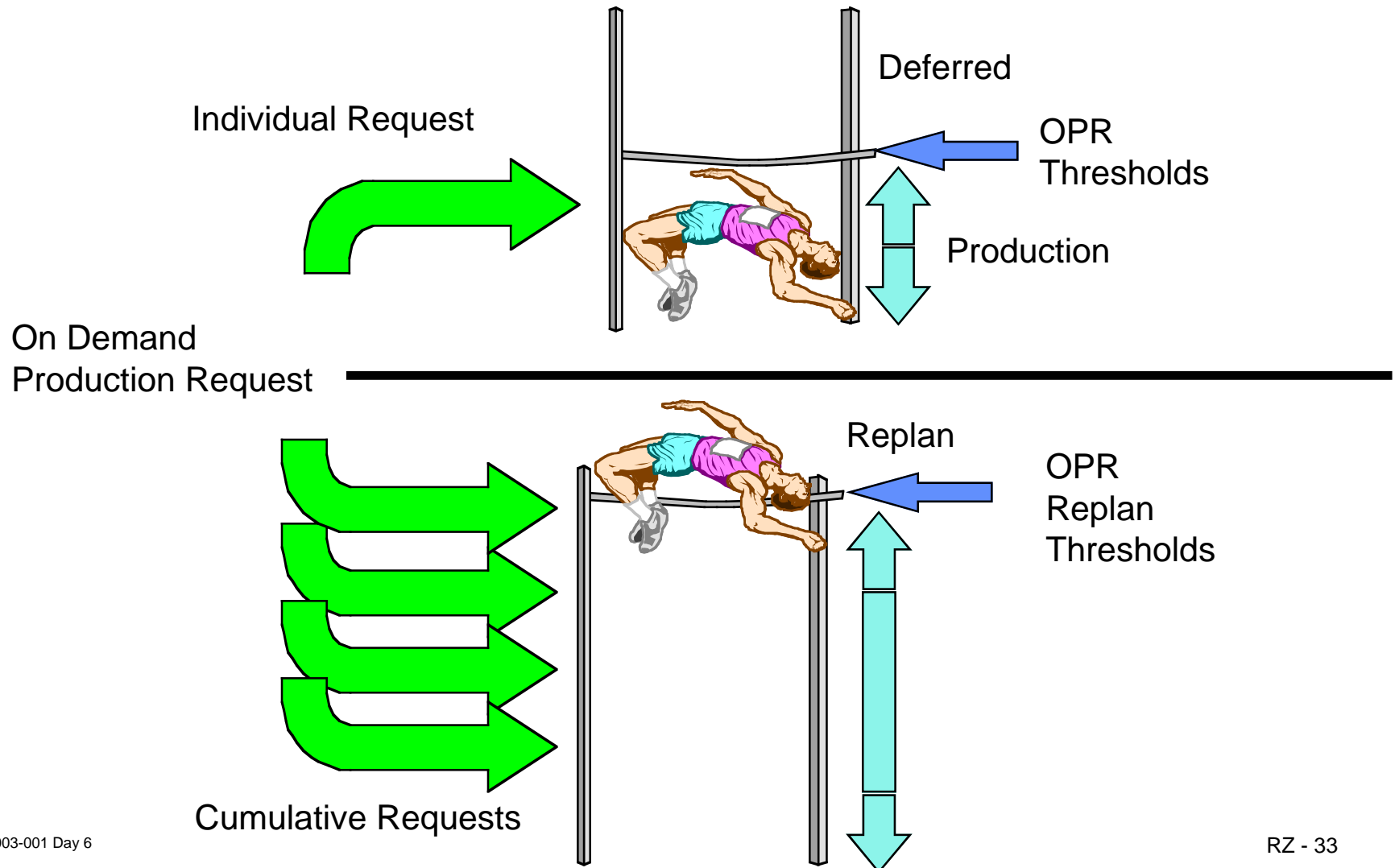
# “6” Production Configuration







# Configuration Example



# Operability/Evolution



## Increased Automation of Design

- **Resource Planner**
  - Conflict Recognition
- **Production Planner**
  - On-Demand Strategies/Configuration
  - Limited-Auto Replan

## Continual Staffing Validation

### Resulted in

- **Reevaluation of M&O staffing profiles with ESDIS and DAACs**



# Conclusion

**ECS Team has worked with DAACs and ESDIS to design and document an operable Rel B system:**

- **Operations Concepts reviewed with DAAC Community and ESDIS**
  - Rel B Operations Workshop
  - User Working Groups, Ops Tels
- **Operations Concepts developed and documented**
  - 604 describes Operations Processes
  - 605 describes Operations Scenarios (operators, system, tools)
  - 607 identifies operators, responsibilities, tools
- **Participate in future activities to validate operability**
  - Rel "B" GUI Workshops

**M&O believes that the Release B ECS System Design is an operable design and capable of supporting AM-1/Landsat 7 Operations**

